readers, nor the phenomenal memory to retain that which we have read. It seems to me that the outcome of the situation will be the birth of the general practitioner in eye, ear, nose and throat diseases, who will in turn refer his patients to the specialist in the particular field which he considers deserving of attention. Perhaps, in time, we shall see the coming of the specialist for the right eye, and the specialist for the left eye, etc.

But, there is also another moral to the story, and that is this: do not concentrate your attention on some little point that you have found, and make it responsible for all sorts of symptoms. Do not think that all uterine troubles are due to eyestrain, nor that varicose ulcers of the legs may be explained by a chronic mastoiditis.

Discussions.

Dr. F. J. S. Conlan: In Dr. Frederick's paper the point that impressed me most was that he places all these patients in the hysterical class. They can not possibly be truly placed in such a category. They are unquestionably neurotic, and why, in them, conditions give rise to symptoms, which in others cause no symptoms, we have not yet discovered. Upon careful examination we will not infrequently find an enlarged papilla at the base of the tongue, an enlarged uvula or an enlarged pharyngeal follicle. Removal, causing a cessation of symptoms can not properly be classed as psycho-therapy.

Dr. Cullen Welty: I am very much interested in what Dr. Frederick has to say, however, my experience with patients who complained of pain from fish bones, bits of meat, scratches and abrasions has been such that I can not agree with him entirely. Furthermore, I have been able to find something that I, at least, attribute to the manifestation of pain. I recall to mind a fish-bone case in which I was unable to locate the foreign body or see the lesion that had been produced by the entrance of same, at the same time I was thoroughly confident that it was present; a few days later an abscess developed which was incised and the fish bone removed. The secret of finding reflex pain is to search most carefully and usually you will be rewarded.

Dr. H. S. Moore: I am reminded of the case of an old lady who called complaining of severe pain in her throat and that she was choking, etc. I found that she had a parrot which she was in the habit of cracking nuts for, she got some of the shells under her palate, this caused a scratch which provoked the reflex choking. I find that these cases of reflex choking are often relieved by cauterizing at the apex of the ant. and post. pillars of the tonsils.

URINARY TRACT INFECTIONS IN WOMEN.*

By DAVID HADDEN, M. D., Oakland.

The general impression among the medical profession is that the infections of the urinary tract in women are of rather infrequent occurrence, and that most of the bladder symptoms recorded in pelvic cases are due to conditions in the adjacent organs, and this impression is emphasized by the scanty treatment of urinary tract conditions in the gynecological text books. Up to a short time ago I have taught quite positively that urinary tract infections were comparatively rare, and that most of the bladder symptoms in women were reflex, outside of those cases of fermentation of residual urine.

In the out patient department of Cooper Gynecological Clinic from 1901 to 1906, nine hundred and twenty-eight new patients were treated and came under my direct observation. Of these a diagnosis of cystitis was made in thirteen, whereas urinary symptoms were complained of in some three hundred and forty-one, and throughout that time no kidney infection was recorded. There is no doubt that the greater proportion of the cases recording bladder symptoms did get relief after the other pathology was cleared up, but whether that relief was permanent, or only relative, we had little opportunity to follow up. Probably only those cases without definite infection and with symptoms due to residual urine and putrefactive organisms did have permanent relief, though it is likely that in many cases the urinary tract infection did finally subside, due to the improved general condition of the patient, the result of the corrected pathology.

This paper is based on the study of some thirty cases of urinary tract infection where the diagnosis of the infection has been confirmed by bacteriological examination of the urine. These cases have come under my observation during the last eighteen months in my own private practise and form a much larger proportion than the clinical records mentioned above. It is hardly reasonable to imagine that infections of this character are more frequent now than formerly, but rather we are justified in concluding that the use of vaccines has led to more frequent bacteriological examination of the urine and increased interest in finding such conditions.

In the *London Clinical Journal* of November 13, 1907, C. B. Lockwood published a lecture on "Genito-urinary Infections, Especially the B. Coli Communis," it being a report of some acute urinary tract infections and a summary of the treatment, which consisted of urinary antiseptics, and bladder irrigations of silver nitrate. He states that vaccine treatment was on trial with him then.

In the same journal, February 2, 1910, Harry Fenwick published a lecture on "Diseases Simulating Cystitis in the Female," in which he quotes three types of these diseases:

1st—Hematogenous infection of the kidney due to b. coli communis; this infection he considers the most common and least virulent variety, frequently following influenza, and more common in women because of the greater prevalence of movable kidney causing back pressure. Most of these cases are acute, but the severe infections needing operation are rare. He favors vaccine as being of value only in the first stages.

2nd—Kidney tuberculosis in which he favors tuberculin.

3rd—Ureteritis—due to uterine "sag." Of these cases he reports six, all involving the left ureter (but why the left only he does not know), believing the condition to be a clinical entity not previously recognized. The symptoms are those of severe bladder distress and pain, with tenderness on the left side of the vagina, but without any

* Read before Alameda County Association, October 22, 1912.

urinary findings, though no bacteriological examinations are reported. All six cases were cured by operation to suspend the uterus.

His premises are that "curable cystitis in the female is tantamount to infection from below by way of the urethra. Obstinate cystitis is nearly always due to infection from above by the ureter."

The majority of the urinary tract infections are associated with ptosis of bladder or kidney, or both, and this shows that in women these infections depend most frequently on improper drainage. In the series of cases on which this paper is based are not included those acute infections that are easy to diagnose by the symptoms of fever, frequent and painful urination with pus in the urine, tenderness over the kidney, such as occur with acute infectious diseases, and often follow too frequent and careless catheterization. Such cases are usually self-evident and are not associated with ptosis, and consequently respond to the urinary antiseptics and systemic treatment. Nor are included those patients with extreme saggings of the bladder as represented by pronounced cystocele and prolapse. The cases here quoted are of the border line type where the degree of ptosis, while sufficient, may be unrecognized upon casual examination or where the diagnosis is obscured by other pathology—and yet in order to get a complete cure we have to correct the defects.

With the more thorough understanding of vaccines I prefer to correct the infection and follow with the necessary operative procedures, because thus the results from operation are more prompt. However, if the sagging of the bladder is marked and the residual urine excessive we must operate early. Vaccines will not cure an abscess unless the pus is liberated and the analogy holds here.

I quote the following cases as good examples of the type of symptoms which led to my making a routine examination of the urine bacteriologically, and which gradually forced me to the conclusion that vaccines and operative procedure must be combined:

Mrs. B., aged 60. Home up the coast and away from medical help. Complains of having had bladder trouble for many years; treated twenty years ago by irrigations over a long period, but received little help. During the last few years symptoms of frequent and painful urination, with occasional blood in the urine, have been marked. Examination shows uterus small, atrophic, retroverted; some cystocele. Cystoscope shows very much congested bladder with bleeding points around the beginning of the urethra and several areas just outside trigone covered with blood clots. Considerable pouching of posterior wall. Urine cloudy, showing albumin and pus with some blood, culture showed colon bacillus infection. Treatment consisted of urinary antiseptics, sedatives and vaccines. Improvement was very slow. She now reports that though she feels much better there are still intervals when symptoms recur, and she suffers discomfort most of the time.

No effort was made to correct the pelvic conditions on account of the patient's age. I did not appreciate then that the sagging bladder was so intimately associated with these infections because there were no symptoms directly depending on the pelvic pathology. In a like case now I should advise some operative procedure, or at least make an attempt to hold up the bladder with a pessary in order to prove the premises in the case, and if proven, operate.

Mrs. H., age 38 years. No pregnancies, supravaginal hysterectomy by prominent surgeon six years ago for inflammation, left ovary not removed. In doctor's hands for the last three years for bladder trouble following removal of caruncle. Examinations showed considerable congestion of the vulva, urethral orifice excessively dilated; cervix enlarged and cystic; left ovary low down, tender, some sagging of anterior vaginal wall. Urine cloudy, alkaline, high sp. gr., trace albumin, some blood; culture shows pure colon. Right kidney tender and enlarged. No cystoscopic examination made on account of acute state of bladder, and later the clearing up of the urine removed the necessity thereof. Treatment consisted of local applications to relieve the congestion in the pelvis with urinary antiseptics and regulation of diet. An autogenous vaccine to combat infection of urinary tract was also used.

In three weeks patient was very much improved. Quantity of urine normal; sp. gr. 1020; clear, no albumin; still slightly alkaline, no blood since beginning the vaccine. After three months of treatment patient felt "fine." Urine culture was negative, local pelvic condition very much improved.

During the next six months there were periods when the urine was alkaline, causing a recurrence of the irritation of the vulva and more frequent urination. I referred the patient to an internist to see if he could find any systemic condition to account for the periods of irritation, as I did not feel that the slight sagging of the bladder was sufficient to account for much residual urine. Nothing physically wrong was found, and the patient a year later still continues to have occasional recurrence of vesical irritation.

In this case I am certain that the removal of the cervix and ovary, and giving of better support to the bladder would put the patient in good health, but a history of most stormy convalescence following both previous operations has prevented encouraging further operative procedures. With overexertion the pelvic congestion is increased, and the sagging of the bladder exaggerated, preventing complete emptying and favoring alteration in reaction, and consequently adding to the irritation. The condition of the patient when first seen was aggravated by the too radical bladder treatment instituted to cure a supposed cystitis, the kidney infection being unrecognized.

The two following histories are typical examples of the type of case with which this paper deals:

Mrs. B., aged 55. One child, menstruation ceased two years ago. Present ill health dates from fall astride a bath-tub five months ago. Had cystitis twenty years before. The coccyx had been removed and the tissue around the perineum incised by a surgeon to whom she had been referred because of pain upon sitting down, and frequent urination. The operation exaggerated rather than improved these symptoms.

She complains of frequent desire to urinate, especially when seated; when lying on back urination frequency is increased, but can lie face downward with comparative comfort; feels well, but is extremely nervous and depressed. Pelvic examination shows mucous membrane pale and atrophic; perineum shows scar of repair, but muscular support is poor; considerable irritation around urethral orifice and vestibule; small cystocele; uterus rather low, atrophic; bladder tender. Cystoscope shows bladder congested, otherwise negative, except for pouching of posterior wall. Urine cloudy, alkaline; sp. gr. 1010; trace albumin, culture shows colon and proteus.

Treatment consisted of vaccine and urinary antiseptics. A small pessary was placed to raise the bladder. In three weeks the urine was perfectly

normal and bacteriological examination negative. The pessary corrected all other symptoms, but three weeks later had to be removed on account of irritation to senile mucous membrane. The discomfort in sitting returned immediately, though there was less frequency of urination than before the infection of the urinary tract had been corrected.

Two months later the patient came, desiring operation, realizing that the majority of her symptoms were due to the bladder ptosis. The operation consisted of an anterior colporrhaphy with perineorrhaphy and abdominal suspension of the uterus. This accomplished permanently what the pessary had temporarily.

Mrs. A. B., aged 51. Has had one child; ceased menstruation at thirty-five years. Had just come from college hospital where gynecologist removed a urethral caruncle without any relief of symptoms. Complains of frequent urination, burning and pain on voiding, backache and a sense of prolapse.

Examination shows considerable irritation around urethra from where caruncle had been removed. Vulva and inside of buttocks show pruritis, probably from sugar in urine; small cystocele, uterus atrophic, although in normal position. Patient had attempted to empty bladder four times in forty minutes, but upon catheterization gives six ounces of residual urine, bladder wall shutting down on catheter just as if a stone were present.

Chemical examination shows albumin, no sugar, culture, an acid forming strepto-bacillus. Cystoscope shows a marked trabeculation and congestion of the bladder, a few bleeding spots, no foreign body but considerable pouching of the posterior wall.

A further report from medical clinic where patient had been under treatment confirmed diagnosis of diabetic mellitus.

Treatment consisted of urinary antiseptics and vaccine, vaginal canal being too contracted to use a pessary as a test of condition. Vaccine finally cured the infection, and thus lessened the frequency of urination, the patient being able to retain urine two hours.

On account of the diabetes an operation was discouraged, but the patient's discomfort caused me finally to do an anterior colporrhaphy and perineorraphy which healed by first intention and resulted in a great improvement in the local symptoms. The general physical condition was improved.

The following case shows that a mechanical interference with the bladder even if unassociated with ptosis favors the development of infection on account of inability to empty bladder:

Miss O. H., aged 25, appendix operation at 13 years of age, when cysts of right ovary were punctured. Removal of right ovary in Orient three years ago. Complains of irritation in bladder and severe pain in right side when menstruating.

Examination shows uterus forward, movable, not enlarged; appendages on left side somewhat thickened; small sausage shaped tender mass on right side in location of tube; kidneys in position. Urine shows trace of albumin, no sugar, sp. gr. 1020. Culture shows colon and streptococcus.

On account of the severe pain during menstruation an operation was performed, when uterus was found forward, closely adherent to bladder; left cystic ovary, and intestines adherent to uterus posteriorly. A broad band of omentum was adherent to parietal peritoneum in median line and inguinal region on right side. Appendix absent. Left tube free but showing nodular inflammation. The right ovary and maior portion of the tube absent. The remaining proximal end of the tube was coiled upon itself, adherent to uterus, with ostium obliterated.

The left tube was removed; the cystic portion of ovary resected; stump of right tube resected; band of omentum removed; the adhesion between the bladder and uterus was separated; 200 c. c. of oleum telephosos left in pelvis and patient was kept in Fowler position in hopes of preventing recurrence of adhesions. Convalescence mild and menstruation at the following periods painless. Bladder symptoms practically relieved, though culture was still positive.

The infection of the urinary tract is here associated with a bladder whose function has been interfered with by the adhesions in the pelvis, especially those of the bladder to the uterus. The conditions found here offer to my mind one of the strongest objections to any operation for a retrodisplacement which involves a plication of the round ligaments between the bladder and the uterus, as does the Coffey, for the development of adhesions is bound to interfere with the bladder functions, favoring infection.

The failure to recognize such conditions as these mentioned, and the difficulty of diagnosing them is due to the fact that in many chronic infections the urine findings vary chemically and microscopically from time to time. As we have seen albumin and pus are not always present, though persistent examinations will finally be positive. The frequent presence of casts tends to an incorrect diagnosis of nephritis.

I have found that many cases of pelvic pathology are corrected, but the urinary infection is overlooked, and on the other hand some cases of urinary infection are diagnosed but the causative factor of the mechanical defect goes unrecognized, and in neither case is the patient cured.

A study of these patients has forced me to the following conclusions:

That urinary tract infections in women are by no means uncommon.

That they are usually associated with improper drainage on account of ptosis in some part of the tract or a relative ptosis produced by the displacement of an adjacent organ.

The infection must occur in many cases autogenously, as mechanical interference can be frequently excluded.

That any operation that weakens the bladder supports, or which may produce adhesions between the bladder and uterus, such as might result from a Coffey, or the newer Willis, round ligament shortening gives a favorable condition for a chronic urosepsis and consequently offers a serious objection to any anterior plication operation.

That in many cases a bacteriological examination only will give the diagnosis, as albumin and pus are variable constituents.

That bacteriological examination must be made from a catheterized specimen when no urinary antiseptics are present in the urine.

That the presence of casts is not always indicative of nephritis but frequently associated with infections and disappear when that infection is cured.

That when vaccine treatment has cleared up or improved the infection, operative work is necessary to correct the sag and cure the patient's

symptom habit, as well as to prevent further auto-infection.

In some cases operative work alone will increase the patient's resistance and result in a cure of the infection.

GASTROTOMY WITH REMOVAL OF 1149 FOREIGN BODIES. RECOVERY.

By A. C. MATTHEWS, A. M., M. D., Napa State Hospital.

The following case is reported because of its unusual interest, considering the number of articles removed from the stomach at operation together with a complete recovery, notwithstanding the marked contusion and ulceration of the stomach walls as disclosed at operation. To those who are dealing with the insane it is not an uncommon thing to hear that some patient has been eating some foreign matter or has swallowed some harmless and indigestible substances as buttons, strings, rags, hair, etc., but rarely do we hear of them swallowing bodies which may give rise to more or less serious trouble as pins, needles, spoons, etc. A peculiar fact observed among the insane is that they can swallow all sorts of articles and apparently suffer little or no inconvenience for long periods of time. This is not only apparent, but actually true and what is the explanation? It is well known by alienists that many of the insane, especially those in a state of marked excitement or with more or less dementia, sustain severe injuries, bad lacerations and wounds, with very little or no complaint. The reason is simple. Their sensibilities are blunted, due to the disordered functioning of the receiving apparatus—the central nervous system—or to a dulling of the peripheral sensory nervous mechanism or a combination of the two. Consequently there is less pain, less shock, less discomfort than we would find in a normal individual. We occasionally hear of operations upon the stomach for the removal of spoons, false teeth, and other objects among these individuals, but in dealing with the insane for many years I have not heard nor read of a case presenting the interesting features shown here and resulting in recovery.

Doctors Vandervirt and Mills * report finding 1,446 articles in a stomach at necropsy. In this case practically no digestive disturbances were manifest during the life of the individual. They also refer to a case by Bell of Montreal in which a hair-ball removed from the stomach formed a complete cast of the stomach and duodenum.

The patient, aged thirty-one, was admitted to the Napa State Hospital in March, 1912. A paternal uncle was insane, the father and sister are eccentric. She was born in San Francisco and spent all her life in California, except one year and eight months in Montana. She was healthy as a child, graduated from grammar school, and spent one year in high school. Always ambitious, desiring to excel in her studies, which she usually did. Was considered exceptionally bright. Began study of music at age of ten and became an accomplished pianist and violinist. Married at age of twenty-five and has two children.

Psychosis: Menstruation was established at age of fourteen. She has always been somewhat nervous and despondent during the menstrual periods. In school she was restless and quite unstrung at examination times because of her desire to excel. However, there appears to have been no actual mental outbreak until March, 1908, when she became restless, sleepless and despondent. She constantly fretted over trifles, had notions, and was unable to care for herself. She continued to be upset through May, June and July. Improvement was noted in August and she was pronounced cured in September of the same year—duration, six or seven months. She continued healthy and cared for her household duties until September, 1911, when she became nervous and depressed over the illness of her two-year-old child. She was pregnant at this time and her condition grew worse after childbirth in October, 1911. Three days before admission she took fifty-seven grains of corrosive sublimate with suicidal intent. At the hospital she was restless, depressed, and tearful, worried much over her absence from home and children, feared she would become a raving maniac and have to spend all her days here. She complained constantly of impulsive thoughts coming to her and an inner tension when it seemed she must scream and rave. Diagnosis—mixed type of manic-depressive insanity.

Discovery of tumor in stomach and operation: May 17th patient began to complain of abdominal distress and then upon close interrogation she hesitatingly admitted that she had been swallowing various articles for the past two months. A few days before this it was reported that patient had swallowed a pin; she finally admitted it, but positively denied she had taken anything else. After confession of her deeds an examination showed a tumorous mass apparently within the stomach, slightly grating in character on manipulation, and seemingly about five or six inches long. There was slight discomfort on gentle pressure. I operated upon the case the same day at 3:10 p. m., being assisted by Doctors Porter and Geraldson of the hospital staff. When the stomach was exposed in the median line it was found that the tumor mass occupied the right two-thirds of the stomach and extended into the duodenum for about four inches. The stomach was opened by an incision about two inches long, on the anterior surface just a little to the right of a midpoint between fundus and pylorus. By means of an electric light introduced through the opening an effort was made to extract the pieces piecemeal by means of tissue forceps. This was a slow, extremely difficult process, and finally had to be abandoned after two hours' work. This necessitated enlarging the incision to the extent of about five inches in order to allow introduction of the hand. Even with this increased advantage the removal was very tedious owing to the close manner in which the objects were interlaced. The gastric mucosa and musculature were badly damaged, especially in the region of the mass. Besides the irritation and ulcerations caused by the foreign matter, the walls were considerably contused during the removal process. The muscular walls throughout the neighborhood of the mass were friable, and even the serous coat appeared less strong than normal. The mucosa and muscular walls were approximated separately by means of chronic catgut and the outer coat with silk. Duration of operation, three hours and ten minutes. The following is a list of articles removed:

180 Wire Hair Pins.
55 Open Safety Pins.
14 Closed Safety Pins.
21 Broken Safety Pins.
5 Prune Pits.

* Jr. A. M. A. January 21, 1911.